

For the Medical Profession only.

Cooper's Colloids.

Their use in

Minor Maladies.



BURGOYNE, BURBIDGES & CO.,
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INTRODUCTION.

The distinction between crystalloids and colloids has long been recognised by scientists and is now well-known in medicine. They were originally thus differentiated because the former were able to pass through a parchment membrane, whereas the latter were not. It soon became known that the same substance might at different times belong to either of these classes, so that the term "colloid state" was used to distinguish between an ordinary solution and a colloidal solution. In a colloidal solution the molecules form little groups or particles which are too small to sink, since they are unable to overcome their electric charge opposing gravity, too small to be visible, and too small to be held by an ordinary filter. They are nevertheless large enough to betray their presence by reflecting light and to have certain properties peculiar to themselves. Among these peculiar properties perhaps the most interesting is what is known as Brownian movement, so called after Robert Brown, a botanist who flourished in the reign of William IV. This observer noticed that certain very minute particles of matter, when suspended in a liquid, could be seen with a high-power of microscope to be in a state of perpetual and vigorous movement. The vigour of the movement diminishes as the particles increase in size, but it is only of recent years that the theory of the motion has been given mathematical form, and after the independent researches of Smoluchowski¹, Einstein², and Langevin³, we are justified in regarding the Brownian movement as a visible proof of the reality of our molecular and Kinetic hypotheses. These colloid particles are electrically charged, and it is believed that this electrical quality enables minerals

in the colloid state to exert an electronic action upon the blood (whose protein particles are also in an electronic state) more certain and more powerful and withal more benign than is possible by any other method. The colloid state, then, is the dynamic state of matter; the crystalloid is the static state. The importance of the part played by the mineral salts in the maintenance of health and its restoration have recently been much insisted upon by Professor Boyd Orr⁴ and others. The ordinary diet of town-dwelling man has been proved to be conspicuously deficient in these salts, and the resulting diseases and maladies have been shewn to be readily controlled and cured by a timely exhibition of the appropriate salts in an assimilable form. Most of these salts, all of them in fact, can now be obtained in the only form which is really assimilable, namely the colloid state, and their use in medicine, especially in everyday practice, admittedly constitutes one of the greatest advances in therapeutics which modern science has produced.

The late Sir Malcolm Morris⁵, writing in the "British Medical Journal" states definitely that his experience of the therapeutic effects of drugs in the colloid state gave results which left him "in no doubt as to their superiority to the same drugs in the non-colloidal form."

J. E. R. McDonagh⁶ ("The Nature of Disease") has attributed the defence which the system maintains against disease to the action of the colloidal particles of protein in the blood serum, which kills parasites or other invaders, electrically by surface energy. He believes that the fight between the system and the parasite is for electricity, and the severity of the disease is dependent upon the success of the invader in this respect. He considers that drugs become converted

into the colloid state in the serum, and declares that colloidal preparations have the great advantage over true solutions in that they are able to convey electrons direct to the protein particles.

Sir William Bayliss, Professor of Physiology, University College, London, in his work entitled "The Colloid State in its Medical and Physiological Aspects," indicates that "the real value of the colloidal preparations of metals and other powerful drugs, is to afford the very slow and prolonged action of continuous minute doses of the active ionized form," which he adds, "may be of much practical utility."

The Prescriber⁷ in an editorial upon the value of colloidal preparations says: "The importance of Colloids in medicine arises from the fact that most, perhaps all the fluids of the body are colloidal in character. It is not then to be wondered at that some astonishing results have been obtained from the use of remedies in the colloidal state. It may be said that if it is possible to administer any drugs in a fully 'protected' colloidal form, such a form represents the natural and therefore the ideal state in which to administer the drug. In many cases it would seem as if, in this way, all the advantages, and none of the drawbacks of the particular drug used, were embodied in the colloidal form."

Of such medicinal colloids no chemist has had greater experience in their preparation, demonstration, and examination, than Mr. Marcus F. Cooper, who has for years, both in London and in Paris, prepared the principal colloidal remedies adopted by the medical profession.

Of these the Colloids of Silver, Iron, Iodine, Sulphur Zinc and Manganese, among others, are specially applicable to the treatment of minor ailments such as

those which constitute the bulk of every-day practice. A brief description of the most important of these is appended.

It is interesting to note that a great many of the drugs which were highly prized by our forefathers, but fell into desuetude, have by modern methods been restored to general scientific esteem. Nowhere is this more conspicuously the case than with the salts of silver. To read a book on *Materia Medica*⁸ published in the early eighties is to be convinced that in spite of its drawbacks the most serious of which was the permanent staining of the skin, nitrate of silver was almost a sovereign remedy. It was recommended in all affections of the alimentary tract, especially dyspepsia and chronic diarrhœa. Externally it was employed in affections of the eye, in affections of the mouth, throat and larynx ; in diseases of the genito-urinary organs of both sexes, and in a great variety of skin diseases, as an application to inflamed surfaces and as a dressing for wounds. The use of silver in its colloid state has shewn that these claims were very far from being extravagant. Indeed, silver would seem to be a mineral of very exceptional potency in preserving and restoring the equilibrium of the human economy. It is a true antiseptic in the proper acceptation of that much-abused term ; it prevents infection when this is threatened, and nullifies toxins when these have formed.

Cooper's Colloid Argentum

(Colloidal Silver).

Is a non-irritant, stainless and non-toxic antiseptic, forming an approved and harmless remedy for ailments of microbic and traumatic origin.

Its antiseptic activity has been found by Professor C. R. Marshall to be due to the extreme minuteness of the silver particles, of which there are several thousand millions in a single drop. Its healing properties are therefore probably due to the increase of oxygen which the silver particles convey to the tissues, thus assisting them in resisting bacterial invasion.

Sir William Bayliss states that "if there be present in the blood or tissues some substance which reacts slowly with the surface of the particles, say of colloidal silver, there may be a continuous supply of a soluble silver salt in very small quantities as long as the particle remains. It is unnecessary to mention that such a process is just what is often required in the therapeutic use of this powerful drug."

Being entirely harmless to the host, colloid silver may be freely used by topical application in such disorders as Common Cold, Influenza, Tonsillitis, Laryngitis, Hay Fever, Chilblains, Piles, infective and other discharges. Wounds, Burns, Soft Sores, minor skin affections, including some forms of Eczema, have no more rapid and painless remedy than the application of undiluted silver colloid.

Immediate relief is produced by its use as a gargle in Sore Throat and hoarseness, whilst it is invaluable for those whose occupation exacts excessive use of the throat, such as orators and singers, both as a preventive and curative remedy. Its curative effect, when taken by the mouth, in diarrhoea has the highest medical authority.

As a douche for all purposes, its harmless but powerful antiseptic properties result in cleansing, healing and invigorating the affected parts, and its application, whether topical or by injection, is immediately followed by alleviation of pain.

The late Sir Malcolm Morris stated in the "British Medical Journal" that "instead of producing irritation, it has a distinctly soothing effect. . . . It rapidly subdues inflammation and promotes the healing of lesions. Being non-toxic, it can be given internally. It is quickly beneficial in diarrhœa."

A. Legge Roe, ophthalmic surgeon to the Hull Royal Infirmary, states that "it is the most useful preparation that has been placed in our hands since the introduction of cocaine," adding that he had used it many thousands of times on the eye and had never known it to cause the slightest irritation. It rapidly relieves soreness and inflammation of the eye due to motoring or exposure to the weather.

Cooper's Colloid Silver represents the latest product of colloidal silver, and supplies a non-toxic antiseptic for general use which does not injure the tissues and is entirely non-irritant and stainless. Though essentially stable, its action is so mild that applied to the eye it is less painful than distilled water. It keeps indefinitely, is always ready for use, and may be diluted when desired.

DIRECTIONS FOR USE.

Compiled from Reports of Protracted Medical Experience.

COMMON COLD—INFLUENZA—SORE THROAT.

One tablespoonful diluted with three parts of warm water, used as a gargle for the throat, as required, until relaxation is abated. Also use similarly diluted as a

douche for the eyes and nostrils. The above treatment also tends to prevent danger of infection.

HAY FEVER.

Use as a gargle for the throat and douche for the eyes as above, and apply cotton wool plugs soaked in the Colloid in each nostril.

WOUNDS—BURNS—SKIN AFFECTIONS— ECZEMA.

Apply on lint or gauze saturated with the Colloid undiluted, and replenish from time to time, keeping the part affected moist.

CHILBLAINS.

Rub the parts affected with the colloid undiluted and alternate with Cooper's Colloidal Iodine Oil.

PILES.

Apply the colloid undiluted frequently to the affected area saturated on cotton wool or lint and use Cooper's Colloid Argentum suppositories.

DIARRHŒA.

A dessertspoonful in twice the quantity of warm water taken by the mouth after the principal meals twice during the day.

EARACHE.

In acute earache drop into the ear several drops of the undiluted colloid. For discharges of the ear syringe frequently with one part of the colloid in three parts of warm water.

SORE OR INFLAMED EYES.

Use undiluted as Eye Drops frequently, or use as a douche diluted with equal quantity of warm water.

NASAL CATARRH.

Use as a douche diluted with 3 parts of warm water and apply cotton wool plugs to each nostril saturated with the colloid undiluted.

SEPTIC MOUTH.

In septic or ulcerated mouth, wash out the mouth with the colloid diluted with 2 parts of warm water.

TOOTH WASH.

For cleansing the teeth, apply several drops to the tooth brush before use and brush well. This colloid is inhibitory of Pyorrhœa.

SEPTIC AND OTHER DISCHARGES.

This colloid is specially applicable to septic discharges as it inhibits such bacteria as the bacillus coli communis, the gonococcus, and various forms of the staphylococcus and streptococcus. In all forms of suppuration it should be applied undiluted to the affected part and renewed ad libitum.

As an injection in urethral discharge, syringe with equal quantity of warm water. Instant relief of pain follows the injection, and persistent application eliminates the micro-organism and restores the healthy condition of the parts affected. For vaginal discharges, Cooper's Triple Concentrated Silver Colloid to be used diluted in 20 times the quantity of warm water is specially prepared. Cooper's Colloid Argentum Pessaries are also recommended.

In 4 oz., 8 oz. and 80 oz. bottles. Strength 0.05 per cent.

Special directions for the use of this colloid in dentistry are in course of compilation by a leading practitioner.

Cooper's Colloidal Iron-Malt

Is an invigorating tonic food combining the beneficial therapeutic properties of iron with the nutritive elements of Malt extract.

A generation or two ago, iron in one form or another was regarded as the most necessary of all ingredients in a tonic mixture. It was described in all handbooks of therapeutics as the great blood replenisher and the best of all bactericides. But, as of the salts of silver, so of the salts of iron, much as their qualities were appreciated, their demerits caused them so to fall in public favour that until yesterday they were relegated to the dustiest shelf in the dispensary. It must be admitted that the demerits were very real, including as they did, constipation, dyspepsia and staining of the teeth. Moreover, the anæmia for which the iron salts were so universally and so successfully prescribed is to-day far less of a clinical entity than it used formerly to be. Chlorosis, for example, is now a rarity, whereas it used to be the most commonplace of consulting-room maladies. Its disappearance has been attributed to the passing of tight corsets, not without reason. However that may be, anæmia in all its forms has declined since its causation was discovered by Arbuthnot Lane to reside in the large intestine. The necessity for an adequate amount of iron for replenishing the daily waste of the red blood corpuscles and oxygen carriers, still exists and must always exist, and so long as iron is so meagrely represented in the ordinary diet as it is to-day, so long will the necessity remain for the introduction of re-inforcements from the pharmacy.

The preparation of stable colloidal iron has by authoritative medical opinion largely solved a difficult

problem and Dr. Lyn Dimond has described in the "Lancet" the definite selective bactericidal action of colloidal iron.

Each drop of Cooper's Colloidal Iron Malt contains countless minute particles of iron exhibiting the active Brownian movement and the metal content diffuses with even distribution in the body causing no constipation or indigestion. It is entirely stainless.

As a general tonic food for children who are anæmic or run down in health it has no superior, and has the additional advantage of being extremely pleasant to the palate.

As a nerve tonic and in cases of debility, as also in consumption and in the prevalent anæmias of women, its use is attended with the best results. As a restorative in convalescence, its action is remarkable. It forms an ideal post-influenzal tonic.

In 8 oz., 16 oz. and 80 oz. bottles.

Composition.—Colloidal Iron 0.05% with a specially prepared malt extract rich in diastase.

Dose.—One to four fluid drachms three times a day after meals.

Cooper's Colloidal Iodine.

Iodine is a drug which has enjoyed the confidence of the profession from time immemorial. Recently a special sanction has been conferred upon its usefulness by the discovery of its prophylactic powers in connection with goitre, cretinism and various other diseases of a similar kind. Iodine is essential to the utilisation by the economy of the hormones of the thyroid gland, and is thus the pivot round which the whole endocrine system may be said to revolve. This is a fact whose importance it would be impossible to over-estimate.

Dr. Goodfellow⁹ refers to this matter as follows :

“ Iodine plays many parts in the economy of life, and its presence is absolutely indispensable. It is surprising that its supreme importance was not recognised long ago ; for of no other mineral substance can it be said that a special gland has been provided by nature for the purpose of abstracting it from the blood, elaborating it into an organic compound, and storing it up for future requirements. The difficulty our thyroid glands experience in getting adequate supplies may be judged from the fact that they have been endowed with a wonderful blood supply. Sixteen times each day all the blood in the body flows through the thyroid. In comparison, bulk for bulk, this is $5\frac{1}{2}$ times more than the kidney gets, and over 40 times more than resting muscles receive. (Weil.) This excessive vascularity speaks volumes for the importance of the work performed by the thyroid, and incidentally reveals the difficulty it experiences in getting adequate supplies of the raw material—iodine.”

Until quite recently the only means of supplying the system with this all-essential element was by the ordinary tincture or one of the metallic salts, of which

iodide of potassium was the best known. The wide application of this salt may be understood by the fact that "When in doubt, try iodide of potassium" was an aphorism with several generations of medical men. Quite recently it has been shown that very minute quantities of iodine added to the drinking water of towns serves to protect the inhabitants not only from goitre, but from most of the manifestations of minor thyroid insufficiency, which, though difficult to define, are nevertheless easily recognised by the experienced.

The tincture is the preparation which has hitherto been employed, but this form has never been regarded as satisfactory by the profession. In an even greater degree than the potassium and other salts of iodine, it has a tendency to upset the digestion and to produce iodism and other evidences of acute intolerance even in small doses. With Iodine in the colloidal form all these drawbacks are completely avoided. Colloidal iodine may be given freely without any fear of unpleasant consequences. But this is not necessary because in the colloidal form it is so readily absorbed and so active that small doses suffice to produce the desired effects.

Cooper's Colloidal Iodine has a very wide application in almost every department of medicine, with conspicuous emphasis on its efficacy (prepared in oleate base) in all skin affections, from chilblains to bedsores, and all parasitic affections. As a preparation for surgical procedures, and as a dressing for wounds, colloidal iodine oil has special advantages. Colloidal Iodine has a very wide application in diseases and affections of the nose, throat and ear, and all up-to-date specialists in these departments express the utmost confidence in its efficacy. It may be employed with considerable hope of permanent relief even in so recalcitrant a condition as Menière's Disease, and has been found of special value in Ringworm.

In the many metabolic errors which are grouped under such names as rheumatism, arthritis, fibrositis, lymphatic diathesis, and so on, Colloidal Iodine is capable of producing very remarkable effects. It quickly affords relief from pain and stiffness, and if persevered with it will so change the character of the constitution as to liberate the sufferer from all tendency to the much dreaded recurrences.

In arterio-sclerosis and high-blood pressure, especially when these are associated with the gouty diathesis, a course of colloidal iodine is strongly indicated.

In short, in all cases where iodine of potassium used formerly to be employed, especially in the tertiary stage of syphilis, Colloidal Iodine will be found a most active and acceptable substitute.

Cooper's Colloid Iodine is supplied in the following forms :—

Ampoules for injection—10 c.c. Strength 0.2%

Solution in bottles for general use, 4 oz., 8 oz., 16 oz.
Strength 0.2%

Oil (3%) in bottles, size 1 oz., 4 oz., 8 oz., 16 oz.

Ointment in 1 oz. and 4 oz. pots.

Paste in 1 oz. and 4 oz. pots. Strength 1%.

Suppositories and pessaries. Strength 1%.

Dose : By Injection 10 c.c. to 100 c.c. Intramuscular or Intravenous.

By the mouth three fluid drachms twice or thrice daily.

As a spray undiluted or diluted with equal part of warm water.

DIRECTIONS FOR USE.

CHILBLAINS.

Rub the parts affected with the colloid Iodine Oil and alternate with Cooper's Colloid Argentum.

RINGWORM.

Cut the hair very short round the patch if necessary shaving the affected area. Rub Cooper's Colloid Iodine Oil well into the scalp two or three times a day, and frequently wash area and remove dead and diseased hairs.

RHEUMATOID AFFECTIONS.

Alternate weekly, Cooper's Colloidal Sulphur (oral) one drachm three times a day, after meals in a wine-glassful of water with Cooper's Colloidal Iodine (aqueous) taken in the same manner. At the same time every fourth day take a bath medicated with the Colloid Sulphur specially prepared for this purpose, and every night well rub in Cooper's Colloid Sulphur Ointment.

DHOBIE'S ITCH—CHARCOT'S BEDSORES— ECZEMA.

Rub in Cooper's Colloidal Iodine two or three times a day.

Cooper's Colloidal Sulphur.

An essential constituent of the human system, sulphur has long been recognised as possessing valuable medicinal properties.

In many cases the curative properties of natural waters have been traced partly to their containing small quantities of colloidal sulphur.

The finest sulphur powder obtainable from a physiological point of view is very inert. In contrast to this, sulphur in the colloidal form is very active. Prepared by a special chemical process, the colloid exists in a state of both chemical and physiological activity. The addition of a small amount of soda to a sulphur colloid results in the immediate solution of the sulphur to form a clear solution. The formation of a similar solution from ordinary powdered sulphur is a very lengthy process and requires prolonged application of heat. It is little wonder therefore that the greater part of ordinary sulphur tablets taken internally pass through the system unchanged.

The best known application of sulphur has been in dermatology. For several generations various forms of the element have been prescribed with more or less success in most forms of skin disease. The colloidal form has been shewn to be exceptionally useful in infantile eczema, in acne vulgaris, generalised dermatitis, acute psoriasis and seborrhœa, when locally applied by means of colloidal sulphur ointment or baths medicated with the special form of colloid sulphur supplied for this purpose. An occasional sulphur bath is an excellent means of maintaining the surface of the skin in a healthy condition, especially where there is any risk of vermin.

In rheumatism, neuritis, fibrositis, arthritis and other maladies of that class, sulphur in the colloidal state should be administered internally, alternately with colloidal iodine, in alternate weeks.

Arbuthnot Lane's teaching has brought home to the profession the prime importance of intestinal disinfection. No better means to this desirable end could possibly be imagined than the regular administration of colloidal sulphur over long periods of time. Contrary to what experience has taught in the matter of ordinary sulphur and the sulphates of magnesium and sodium, colloidal sulphur has the effect of completely deodorising the fæces and the gases of the intestine. This shews its extraordinary and indeed almost unique power as a disinfectant of the intestinal contents. Inasmuch as it is now recognised that a very large number of every-day maladies, including pyorrhœa, are due to absorption of putrefactive material from the large intestine, the administration of colloidal sulphur deserves to become a routine measure in their treatment, whatever means may be adopted against acute manifestations.

Cooper's Colloidal Sulphur is supplied in the form of an aqueous solution to be taken by the mouth, an aqueous solution for bath medication, an ointment and an oil for local application.

Dose : Orally one to two fluid drachms in water after meals thrice daily.

Topical : Apply Cooper's Colloidal Sulphur Ointment or Oil externally, and rub in to the affected part.

As a Bath : Stir one 4-oz. bottle in hot bath and remain immersed for 15 minutes.

DIRECTIONS FOR USE.

PSORIASIS—ACNE—ECZEMA.

Take Cooper's Colloid Sulphur (Oral) thrice daily after meals, in doses of two teaspoonfuls.

DERMATITIS.

Generalised. Rub in Cooper's Colloidal Sulphur Ointment two or three times a day. Take a bath medicated with the special colloid sulphur supplied for this purpose twice a week.

RHEUMATOID AFFECTIONS.

Vide directions for the use of Cooper's Colloid Iodine.

ALOPECIA AND SEBORRHOEA OF SCALP.

Well rub in Cooper's Colloid Sulphur Oil night and morning.

Cooper's Colloidal Zinc.

The efficiency of zinc in colloid form in most skin affections has warranted the manufacture of three distinct preparations.

COOPER'S COLLOIDAL ZINC OINTMENT

is an ointment containing 3% by weight of zinc in the colloid state. It is exceedingly active, and is recommended for the treatment of tuberculous joints, lupus vulgaris, eczema, as a deodorant, and as a check to excessive perspiration.

COOPER'S COLLOIDAL ZINC CREAM.

The obvious drawbacks to the "fair sex" of the applications of a greasy preparation to the hands and face have called for a high-grade non-greasy form. This preparation is a cosmetic preparation of the first order. Its properties as a face cream pure and simple, surpass those of any other preparation, and at the same time it contains colloidal zinc, and possesses the valuable medicinal properties of a zinc ointment. Rubbed on the skin it completely vanishes, has at the same time a healing action, and leaves the skin eminently suitable for taking a powder.

COOPER'S PRECIPITATED COLLOIDAL ZINC OXIDE TOILET POWDER.

This Toilet powder is prepared by the precipitation of a Colloidal Zinc solution. This method of preparation ensures an excessively soft fine powder entirely free from crystalline and irritant properties. It is specially prepared for use after Cooper's Colloidal Zinc Cream. It is perhaps the only face powder which after long use, not only does not harm the skin, but actually has a beneficial effect. It is supplied delicately perfumed, and in various tints.

Cooper's Colloidal Manganese.

The valuable antiseptic properties possessed by permanganate of potassium prepared the way for the general acceptance with which Colloidal Manganese has been greeted by the profession in the treatment of all suppurative processes. Boils, carbuncles and acne vulgaris are usually very difficult completely to eradicate. They may improve, but they tend to recur. Treated by the intramuscular injection of Colloidal Manganese they not only improve, but disappear. This method places in the hands of the practitioner a simple and almost specific means of combating these painful and unsightly affections. Colloidal Manganese has also received excellent medical reports in seborrhæic eczema, erysipelas, abscesses and other septic conditions.

Cooper's Colloid Manganese.

DIRECTIONS FOR USE.

BOILS AND CARBUNCLES.

Inject intramuscularly Cooper's Colloid Manganese into the gluteous as follows:—

1st day	..	..	0.5 c.c.
3rd day	..	..	0.5 c.c.
9th day	..	..	0.5 c.c.
13th day	..	..	1.0 c.c.
20th day	..	..	1.0 c.c. (if necessary).

ACNE SUPPURATIVE AND VULGARIS.

Inject the Colloid as above, but at intervals of four days commencing with 0.5 c.c. and increasing to 2 c.c.

Cooper's Colloidal Bromum.

Among the many hypnotics and sedatives which modern pharmaceutical ingenuity has placed at the disposal of the profession, not one has succeeded altogether in supplanting the time honoured bromide of potassium. One of the reasons for this is that this salt does not engender a habit; another is that it is perfectly reliable. Against it, however, it is truthfully urged that the rash which it so often produces is so irritating and unsightly as to decide patients definitely to discontinue it. Bromum in the colloidal state, while avoiding this great drawback, offers all the advantages to be obtained from bromide of potassium, in those obscure nervous conditions which bulk so largely in every-day practice. Colloidal Bromum is in every way the equivalent of Colloidal Iodine. It is perfectly harmless, and produces its therapeutic effects with celerity and certainty.

Dose: Orally 1 to 2 fluid drachms thrice daily in water.

As a hypnotic at night double this dose.

The literature applicable to the use of Cooper's Medicinal Colloids in the treatment of the more serious diseases has already been published and will be supplied to medical practitioners together with samples of the colloids desired on application.

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